DETAILED ACTION

Response to Arguments

Applicant's arguments/amendments filed August 4, 2011, with respect to the claim objections/112 rejections have been fully considered and are persuasive. Those rejections have been withdrawn.

Applicant's arguments/amendments with respect to the prior art rejections have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13, 15, 21 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine (20030007124) in view of Platt (20050192563), hereinafter Platt.

Regarding claim 13, Applicant recites a means for generating patterns and a means for coupling. The former recitation is NOT interpreted under 112 6th paragraph because it is sufficiently defined by structure (e.g. optical filters, diaphragms and or optoelectronic modulators); however, latter recitation is interpreted under 112 6th paragraph. Accordingly, per Applicant's specification, the means coupling must be a beamsplitter or a functional equivalent. Levine teaches units comprising a light or

illumination source (207,225; Figure 2a), a means for generating patterns or profiles, which Examiner interprets as the diaphragm (243) OR the wavefront analyzer (213; paragraph [0091]). A diaphragm inherently alters at least a profile of the incident beam, which the wavefront analyzer generates patterns via dot pattern mask (307; [paragraph [0091]). Levine also teaches a means for coupling or a beam splitter (239) and an objective lens (241; Figure 2). The objective is located downstream of the beam splitter, and Levine illustrates the parallel beams and the convergent beams, as claimed. Furthermore, Levine teaches the use of spectral filters (Paragraphs [0010] and [0073]) and diaphragms to control illumination of the retina (paragraph [0074]). If the wavefront analyzer (213) is interpreted as the means for generating, then the beam splitter (249) can additionally be interpreted as the means for coupling.

Levine is silent with respect to the wavelength of light used. Attention is directed to Platt who teaches providing UV radiation at 365 nm (Paragraphs [0033, 0059 and 0072]). Platt's invention concerns modifying adjustable lenses, which requires projecting the mask image onto the lens (Paragraph [0038]). It would have been obvious to provide UV radiation at 365 nm with the invention of Levine because it would have enabled Levine's device to both image and adjust previously implanted adjustable lenses.

Regarding claim 21, Levine teaches using beam splitters (249 or 263) to couple an observation image to a view finder (227; Figure 2) for direct observation (Paragraph [0085]). The beam splitter (249) must separate the light based in part on wavelength, since infrared light is produced by the source (225), while source (207) uses a xenon or

krypton source, as discussed in the rejection of claims 16 and 18, supra. Furthermore, it well known to a skilled artisan to use a beamsplitter to separate light based on wavelength. The recitation concerning protecting the observer has no patentable significance, since there is no metric by which to limit the spectra, intensity or any other property of the light.

Regarding claim 22, Levine teaches that the light source teaches does NOT teach that the illumination source (11) is not arranged within the illumination unit. However, making an element separate is not of innovation. It would have been an obvious matter of design choice to make the illumination source separate from the illumination unit or to make the illumination unit a modular unit for retrofit installation into an ophthalmic instrument, since such modifications would have involved making the parts separately or portable. Making a part separate, if it is desirable, is generally recognized as being within the level of ordinary skill in the art. In re Dulberg, 289 F.2d 522, 129 USPQ 348,349 (CCPA 1961). Furthermore, Applicant admits that positioning light sources outside of a main housing, and using a light guide or conductor to transmit the light to a main housing is common to one of ordinary skill in the art (Applicant's Arguments/Remarks: Pages 10- 11).

Regarding claim 23, Levine teaches using a fixation target to track movements of the eye, which enables tracking of the spot patterns (paragraphs [0066], [0090], [0096] and [0144]).

Regarding claims 24-26, Levine teaches using the unit in combination with a wavefront measuring unit or wavefront sensor based adaptive optical subsystem (203; Figure 2). This unit is modular (Summary of Invention and paragraph [0086]).

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine and Platt as applied to claim 13 above, and further in view of Sumiya (US 6,585,723 B1).

Regarding claims 14 and 15, Levine teaches providing a computer for recording patterns (Paragraphs [0060] and [0102]), and providing interfaces such as connectors, to send data to external devices for processing, analysis, etc. (Paragraph [0148]).

However, although Levine intends to use his invention with an ablative laser (paragraph [0033]), that configuration is not discussed. Attention is directed to Sumiya who teaches using an ablative laser to correct detected aberrations (Summary of the invention). Sumiya teaches a computer or monitoring unit (8) comprised of an input unit (41), a processing unit (42), a display unit (43), and an output unit (44). The processing unit (42) processes signals sent from the photodetector (23), signals sent from the corneal shape measurement optical system (10) and the inputted irradiation conditions in order to obtain ablation data. The data processed by the processing unit (42) is sent to the control system (40). Processed data may also be sent to the display unit (43). In addition to controlling the processing unit (42) and the control system (40), the computer (8) functions at least at the level of a basic computer, which can store or record ablation data or radiation dosage, irradiation patterns and positions. Sumiya specifically mentions that it has more than one interface for transferring data (a printer and a floppy

disc drive; Column 3, Lines 21-24; Column 5, Lines 35-60). It would have been obvious to a skilled artisan to include the monitoring device of Sumiya with the invention of Levine, because Levine's device is intended to be used with corneal surgical apparatuses. Therefore, it would have been advantageous to provide a monitoring system that monitors all aspects of the wavefront measurement, image capture/processing and the surgical procedure in order to reduce transfer of data and redundant elements (e.g. computers).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY LIPITZ whose telephone number is (571)270-5612. The examiner can normally be reached on Monday to Thursday, 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sam Yao can be reached on (571)272-1224. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEFFREY B LIPITZ/
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/Henry M. Johnson, III/
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